

Title (en)
METHOD AND APPARATUS FOR MANUFACTURING FOAM MOLDED BODY

Title (de)
VERFAHREN UND VORRICHTUNG ZUR HERSTELLUNG EINES SCHAUMFORMKÖRPERS

Title (fr)
PROCÉDÉ ET APPAREIL DE FABRICATION D'UN CORPS MOULÉ EN MOUSSE

Publication
EP 3431246 A1 20190123 (EN)

Application
EP 17766173 A 20170213

Priority
• JP 2016050500 A 20160315
• JP 2017005178 W 20170213

Abstract (en)
Provided is a method for manufacturing a foam molded body by which a complex control unit for a physical foaming agent can be omitted or simplified and a dissolving amount of the physical foaming agent relative to molten resin can be stabilized with a simple mechanism. The method for manufacturing the foam molded body uses a plasticization cylinder that has a plasticization zone, a flow rate adjustment zone, and a starvation zone in sequence from an upstream side thereof and has an introduction port for introducing the physical foaming agent in the starvation zone, the method comprising: plasticizing and melting thermoplastic resin into the molten resin in the plasticization zone; adjusting a flow rate of the molten resin in the flow rate adjustment zone; putting the molten resin, of which the flow rate is adjusted in the flow rate adjustment zone, in a starved state in the starvation zone; introducing pressurized fluid containing the physical foaming agent having a constant pressure into the starvation zone to maintain the starvation zone at the constant pressure; causing the molten resin in the starved state and the pressurized fluid containing the physical foaming agent having the constant pressure to contact each other in the starvation zone while the starvation zone is maintained at the constant pressure; and molding molten resin contacting the pressurized fluid containing the physical foaming agent into a foam molded body.

IPC 8 full level
B29C 45/00 (2006.01); **B29C 45/77** (2006.01)

CPC (source: CN EP KR US)
B29B 7/429 (2013.01 - EP); **B29B 7/72** (2013.01 - EP); **B29B 7/7414** (2013.01 - EP); **B29B 7/826** (2013.01 - EP);
B29C 44/3446 (2013.01 - CN EP US); **B29C 44/3453** (2013.01 - US); **B29C 44/422** (2013.01 - CN EP US); **B29C 44/60** (2013.01 - CN EP KR US);
B29C 45/60 (2013.01 - KR); **B29C 45/62** (2013.01 - KR); **B29C 45/77** (2013.01 - KR US); **B29C 48/0012** (2019.01 - CN EP US);
B29C 48/268 (2019.01 - CN); **B29C 48/29** (2019.01 - CN); **B29C 48/53** (2019.01 - CN); **B29C 48/58** (2019.01 - CN);
B29C 48/605 (2019.01 - CN); **B29C 48/92** (2019.01 - CN EP US); **B29C 45/47** (2013.01 - US); **B29C 45/60** (2013.01 - US);
B29C 48/268 (2019.01 - EP US); **B29C 48/29** (2019.01 - EP US); **B29C 48/53** (2019.01 - EP US); **B29C 48/58** (2019.01 - EP US);
B29C 48/605 (2019.01 - EP US); **B29C 2945/76193** (2013.01 - KR); **B29C 2945/76595** (2013.01 - KR); **B29C 2948/926** (2019.01 - CN EP US);
B29K 2023/12 (2013.01 - CN EP US); **B29K 2033/08** (2013.01 - CN EP US); **B29K 2067/003** (2013.01 - CN EP US);
B29K 2069/00 (2013.01 - CN EP US); **B29K 2077/00** (2013.01 - CN EP US); **B29K 2101/12** (2013.01 - CN EP US)

Cited by
EP3964345A1; US11504891B2; EP3647013A4; US11260564B2; US11648713B2; US11945140B2

Designated contracting state (EPC)
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)
BA ME

DOCDB simple family (publication)
US 11207809 B2 20211228; **US 2018339439 A1 20181129**; CN 108472845 A 20180831; CN 108472845 B 20200918;
CN 112060457 A 20201211; CN 112060457 B 20220426; EP 3431246 A1 20190123; EP 3431246 A4 20190925; JP 2019177696 A 20191017;
JP 6533009 B2 20190619; JP 6843919 B2 20210317; JP WO2017159166 A1 20180913; KR 102058641 B1 20191223;
KR 102185341 B1 20201201; KR 102277965 B1 20210716; KR 20180114142 A 20181017; KR 20190142427 A 20191226;
KR 20200136053 A 20201204; WO 2017159166 A1 20170921

DOCDB simple family (application)
US 201816050503 A 20180731; CN 201780005864 A 20170213; CN 202010888755 A 20170213; EP 17766173 A 20170213;
JP 2017005178 W 20170213; JP 2018505352 A 20170213; JP 2019095647 A 20190522; KR 20187026532 A 20170213;
KR 20197037216 A 20170213; KR 20207034007 A 20170213